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## PATENT ABSTRACTS OF JAPAN

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## (54) OPTICAL SEMICONDUCTOR DEVICE

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## (57) Abstract:

**PROBLEM TO BE SOLVED:** To form the external shape of a light-emitting element and a photodetector as thin as possible, and to enable a miniaturization of the elements also in a module or a set with these elements incorporated therein.

**SOLUTION:** An optical semiconductor device is provided with semiconductor chips 23 and 24 as its light-emitting element and photodetector; and a resin sealed body 25 for sealing these chips consists of a material transparent to light. Moreover, grooves 27 are respectively formed in the region, where the light is emitted from the light-emitting element, and the region, where the light is incident in the photodetector; and reflective surfaces 26 are respectively constituted on these grooves 27. As a result, it becomes possible that the light is emitted and incident from the light-emitting element and in the photodetector via the side surface E of the sealed body 25. Moreover, as each slant surface 30 is provided on the upper parts of the reflective surfaces, the intensity of the light is strong.

